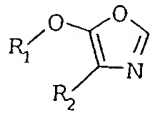
WE CLAIM:

1. A process for continuously preparing 5-alkoxy-substituted oxazoles of the formula I



I

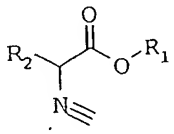
where

R_1 is an unsubstituted or substituted C_1-C_6-alkyl radical and

R_2 is hydrogen or an unsubstituted or substituted C_1-C_6-alkyl radical,

which comprises

converting continuously added α-isocyanoalkanote esters of the formula II



II

in the presence of continuously added assistants

at temperatures above 80°C

in a reactor to the 5-alkoxy-substituted oxazoles of the formula I

and continuously removing the reaction products from the reactor.

2. A process as claimed in claim 1, wherein the assistants used are cyclizing assistants selected from the group consisting of bases, alcohols and esters.

3. A process as claimed in claim 1, wherein the reactor used is a tubular reactor.

4. A process as claimed in claim 3, wherein the tubular reactor has a Bodenstein number greater than or equal to 50.

5. A process as claimed in claim 3, wherein the tubular reactor has a theoretical tank number greater than or equal to 50.

6. A process as claimed in claim 3, wherein the discharge from the tubular reactor is fed into a continuously operated column and continuously separated distillatively in the column into a low-boiling fraction comprising the compounds of the formula I and a high-boiling fraction comprising unconverted compounds of the formula II and assistants.

7. A process as claimed in claim 6, wherein the low-boiling fraction comprising unconverted compounds of the formula II and assistants is recycled into the reaction.

8. A process as claimed in claim 1, wherein simultaneously with the conversion, the 5-alkoxy-substituted oxazoles of the formula I are removed from the reaction mixture.

9. A process as claimed in claim 8, wherein the reactor used is a reaction column and, simultaneously with the conversion, the 5-alkoxy-substituted oxazoles of the formula I are removed from the reaction mixture by rectification.

10. A process as claimed in claim 9, wherein the rectification parameters are set in such a way that

A the α-isocyanoalkanote esters of the formula II are converted to the 5-alkoxy-substituted oxazoles of the formula I on the internals and, if present, in the liquid phase of the reaction column,

B the 5-alkoxy-substituted oxazoles of the formula I resulting from the conversion are continuously removed with the top stream or sidestream of

the reaction column and

C the assistant and any high-boilers resulting from the conversion are removed continuously and independently of each other with the bottom stream or sidestream of the reaction column.

11. A process as claimed in claim 9, wherein the conversion is carried out in the presence of an inert solvent and the reaction parameters are set in such a way that

A the α-isocyanoalkanote esters of the formula II are converted to the 5-alkoxy-substituted oxazoles of the formula I on the internals and, if present, in the liquid phase of the reaction column,

B1 when the solvent has a higher boiling point than the 5-alkoxy-substituted oxazoles of the formula I resulting from the conversion, the 5-alkoxy-substituted oxazoles of the formula I are continuously removed with the top stream and the solvent is continuously removed via the sidestream or bottom stream of the reaction column,

B2 when the solvent has a lower boiling point than the 5-alkoxy-substituted oxazoles of the formula I resulting from the conversion, the 5-alkoxy-substituted oxazoles of the formula I are continuously removed with a sidestream and the solvent is continuously removed with the top stream of the reaction column and

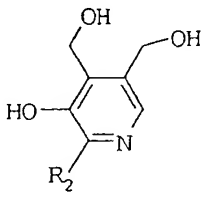
C the assistant and any high-boilers resulting from the conversion are removed continuously and independently of each other with the top stream or sidestream of the reaction column.

12. A process as claimed in claim 9, wherein the reaction column used is a dividing wall column.

13. A process as claimed in claim 9, wherein, when the assistant forms an azeotrope with the 5-alkoxy-substituted oxazoles of the formula I, the top pressure of the column is set in such a way that the fraction of the assistant in the azeotrope in the top stream is as low as possible.

14. A process as claimed in claim 9, wherein the top pressure of the column is set to from 5 to 800 mbar and the resulting bottom pressure, which depends on the type of column used and, if used, the type of column internals, is from 10 mbar to atmospheric pressure.

15. A process for preparing pyridoxine derivatives of the formula IX

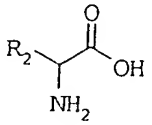


IX

where

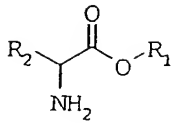
R_2 is hydrogen or an unsubstituted or substituted C_1-C_6-alkyl radical,

which comprises converting amino acids of the formula III



III

to amino esters of the formula IV,

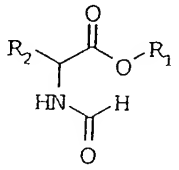


IV

where

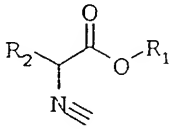
R_1 is an unsubstituted or substituted C_1-C_6-alkyl radical,

converting the latter into formamido esters of the formula V,



V

converting the latter into α-isocyanoalkanoate esters of the formula II,



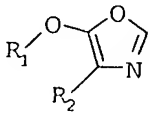
II

converting the latter in a continuous process step

in the presence of assistants

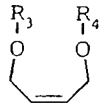
at temperatures above 80°C

to 5-alkoxy-substituted oxazoles of the formula I



I

reacting the latter with protected diols of the formula VI

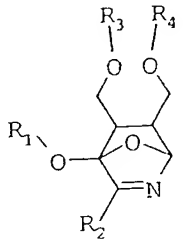


VI

where

R_3 and R_4 independently or R_3 and R_4 together are a protecting group of the hydroxy function,

to give the Diels-Alder adducts of the formula VII,



VII

and converting the latter by acid treatment and detachment of the protecting group to the pyridoxine derivatives of the formula IX.